REMARKS

Claims 1-24 are pending in this application. By this Amendment, claims 1, 5, 6, 17, 22 and 24 are amended for clarity.

Entry of this Amendment is proper under 37 C.F.R. §1.116 because the amendments: a) place the application in condition for allowance, for the reasons set forth below; b) do not raise any new reasons that require further search and/or consideration; and c) place the application in better form for an appeal, should an appeal be necessary. More specifically, the above amendments merely clarify that the D-channel controller and C-channel controller are separate from one another and that the D-channel and C-channel are separately provided between an active module and a standby module (or a first and second device). See Figure 4 of the present application, for example. These amendments do not raise new issues as they should have been properly interpreted within the original claims. The Office Action also appears to recognize that these features are separate items. These amendments are therefore provided for clarity. Thus, no new search and/or consideration is necessary by the Examiner. Entry is proper under 37 C.F.R. §1.116.

The Office Action rejects claims 17-19 and 24 under 35 U.S.C. §102(e) over U.S. Patent 6,389,554 to Jung. The Office Action rejects claims 1-3, 5 and 7-24 under 35 U.S.C. §102(e) over U.S. Patent Application No. 2001/0016920 to Chan. The Office Action further rejects claims 1-3, 5 and 20-21 under 35 U.S.C. §103(a) over Jung in view of standard PCI bus master practice, as further evidenced by U.S. Patent 6,618,783 to Hammersley. The Office Action

rejects claims 4 and 6 under 35 U.S.C. §103(a) over Jung in view of standard PCI bus master practice, as further evidenced by U.S. Patent 5,884,051 to Shaffer. Still further, the Office Action rejects claims 4 and 6 under 35 U.S.C. §103(a) over Chan in view of standard PCI bus master practice, as further evidenced by Shaffer. The rejections are respectfully traversed.

Applicant maintains all arguments set forth in the May 14 response. However, applicant will provide further arguments to distinguish the pending claims from the applied references in response to the Examiner's comments on pages 19-24 of the present Office Action. In order to better organize these arguments, applicant will first discuss the Jung reference and subsequently the Chan reference. In summary, these references, either alone or in combination, do not teach or suggest a D-channel controller and C-channel controller that are separate from one another as well as a C-channel and D-channel separate from each other. These features are claimed in various ways throughout the claims.

A. Independent Claim 17

Independent claim 17 recites a first device and a second device of the duplex device each having a D-channel controller and a C-channel controller separate from the D-channel controller. Independent claim 17 also recites a C-channel, separate from the D-channel, interconnecting the C-channel controllers of the first and second devices to convey status signals. Furthermore, independent claim 17 recites the C-channel controller of the first and second devices each monitor a subset of the C-channel status signals received over the C-channel between the first device and the second device to determine which of the first and

second devices has an active mode status and which has a standby mode status. Independent claim 17 also recites that both the active mode status and the standby mode status are identified by a self-side normal signal and a pair-side active signal sent over the C-channel between the first device and the second device.

Jung includes a data channel between an active module and a standby module. See Figure 4. Jung does not disclose a C-channel separate from a D-channel to convey status signals. The paragraph bridging pages 19-20 of the Office Action asserts that Jung discloses that the operation mode is determined by a memory switch controller 440 and control signals for controlling the active module memory switch 410. However, Jung's memory switch 440 generates signals for controlling three switches 410, 420 and 430 for conveying data between the two modules over the data channel. The Office Action appears to assert that Jung discloses a channel that carries status signals. However, Jung's memory switch 440 does not teach or suggest a C-channel separate from a D-channel to convey status signals and that the C-channel status signals received over the C-channel between the first device and the second device to determine which of the first and second devices has an active mode status and which has a standby mode status. Jung's disclosure of a switch controller 440 does not relate to a C-channel (separate from a D-channel) between a first and second device in which status signals are received over the C-channel. Thus, Jung does not teach or suggest these alleged features of independent claim 17.

Further, Jung does not teach or suggest that both the active mode status and the standby mode status are identified by a self-side normal signal and a pair-side active signal sent over the C-channel between the first device and the second device. The Office Action's apparent reference for these features is to Jung's col. .7, lines 51-58. However, Jung's Enable_A, Dir_A, etc. signals do not correspond to these claimed features of the self-side normal signal and the pair-side active signal. Further, Jung's signals set forth in col. 7, lines 51-58 are not sent over the C-channel as claimed. Rather, Jung expressly discloses that the signals discussed in col. 7, lines 51-58 are generated by controller 440 to control switches 410, 420, 430 for the purpose of conveying data.

B. Independent Claim 1

Independent claim 1 recites an active module having a primary C-channel controller separate from the primary D-channel controller and a standby module having a secondary C-channel controller separate from the secondary D-channel controller. Independent claim 1 further recites a C-channel provided between the active module and the standby module that exchanges the primary and secondary status information between the primary and secondary C-channel controllers as well as a D-channel, separate from the C-channel, provided between the active module and the standby module that supports access to the primary and secondary memories.

For at least similar reasons as set forth above, Jung does not teach or suggest the respective primary C-channel controller separate from a primary D-channel controller that

communicates primary status information as well as a secondary C-channel controller separate from the secondary D-channel controller. Furthermore, Jung does not teach or suggest a C-channel provided between the active module and the standby module and a D-channel separate from the C-channel as recited in independent claim 1.

In discussing Chan, the Office Action primarily relies on Chan's paragraph [0044] and Figures 5A, element 248A to allegedly show a primary/secondary D-channel controller and a primary/secondary C-channel controller within an active module and a standby module. However, as is clearly shown in Figure 5A, element 224A is a single memory controller that includes a reset and fail logic unit 248. Figure 4 also only shows a single memory controller within a single I/O control logic unit. Therefore, Chan does not teach or suggest the claimed primary C-channel controller, separate from the primary D-channel controller, that communicates primary status information of an active module. Chan also does not teach or suggest the claimed secondary C-channel controller, separate from the secondary D-channel controller, that communicates secondary status information of the standby module. Chan's disclosure of a single controller 224A within one I/O control logic unit 212 clearly does not teach or suggest an active module having both a primary D-channel controller and a primary C-channel controller as claimed. Chan also does not recognize the advantages of having both a D-channel and a C-channel or of having both a D-channel controller and a C-channel controller. Further, Chan's memory controller 224A would operate differently than the present application's

use of the D-controller and C-controller. Chang therefore does not teach or suggest the alleged features of claim 1 as alleged in the Office Action.

C. Independent Claim 5

Independent claim 5 recites reading a secondary status of a secondary module, via a C-channel, where the C-channel coupling the primary module with the secondary module and the D-channel, separate from the C-channel, also coupling the primary module with the secondary module. For at least similar reasons as set forth above, Jung and Chan do not teach or suggest these features.

D. Independent Claim 22

Independent claim 22 recites reading a first status of the first device transmitted over the C-channel and a second status of the second device transmitted over the C-channel, and setting one of the first and second devices to an active mode status and the other of the respective devices to a standby mode status based on the first and second status transmitted over the C-channel. Independent claim 22 further recites that both the first status and the second status are identified by a self-side normal signal and a pair-side active signal. Independent claim 22 further recites that both the first status and the second status are identified by a self-side normal signal and a pair-side active signal. For at least similar reasons as set forth above, Jung and Chan do not teach or suggest these features.

E. Summary

For at least the reasons set forth above, applicant has clearly shown how Chan and Jung do not teach or suggest the respectively claimed features of each of the independent claims. The Office Action relies on the secondary references of the standard PCI bus master practice, as evidenced by Hammersly and Shaffer to show other features of the claims. These other applied references do not relate to the missing features of Chan and Jung as discussed above. Accordingly, each of independent claims 1, 5, 17 and 22 define patentable subject matter.

Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this additional reason. In addition, the dependent claims also recite features that further and independently distinguish over the applied references. Various ones of these dependent claims have been addressed in the previous response and these arguments are maintained in the present response. However, in view of the above explanation of how Jung and Chan do not teach or suggest respective D-channel controllers and C-channel controllers and D-channels and C-channels as recited in the claims, the applied references and the other applied references do not teach or suggest the features of the dependent claims.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-24 are earnestly solicited. If the Examiner believes that any additional changes would place the application in

better condition for allowance, the Examiner is invited to contact the undersigned attorney, **David C. Oren**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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